

### REMARKS

In view of the preceding amendments and following remarks, reconsideration of the present application is respectfully requested.

Claims 2, 3, 5, and 12-16 were pending in the Application and were rejected. By this Response, Claim 13 amended. No new matter is included herein.

Claims 13 and 15 were rejected under 35 USC §103(a) as being unpatentable over Tran. Claims 2, 3, and 14, were rejected under 35 USC §103(a) as being unpatentable over Tran, in view of Murata (US 5,325,182). Claims 5 and 16 were rejected under 35 USC §103(a) as being unpatentable over Tran, in view of Chaplin (US 5,386,242).

Embodiments of the present invention usually work with continuous video, frame-after-frame. Only some portion of the image has a subject-of-interest. Specification, page 5, line 31, to page 6, line 16. So the frame can be electronically partitioned and the particular look-up table (LUT) that improves that portion of the overall scene is used. Other parts of the frame can be enhanced with other transfer functions resident in the LUT. The partitioning of a frame into segments and applying different gain profiles will produce an odd looking overall picture, but it is the subjects-of-interest that are being scrutinized. For

example, in vehicle license recognition systems or manufacturing quality control automata, the backgrounds are unimportant. Specification page 6, lines 17-28.

The Office Action has missed an important distinction recited in Claim 13, "an analog-to-digital converter (ADC) having an analog-to-digital conversion dynamic range characteristic, and connected to receive said signal video output that matches its range with said light-exposure-to-analog conversion dynamic range characteristic of the imaging device, wherein the full analog dynamic range of the imaging device makes use of the full digital output word range of the ADC". On Page 3 of the Office Action, Official Notice is taken that ADC's have dynamic ranges. But Claim 13 recites that such ADC range is MATCHED with the imaging device's range. Tran describes only analog implementations, and very briefly alleges that digital circuits could be used instead. Tran never precisely explains how to do it digitally, and certainly not to the level of detail recited in Claim 13.

Claim 13 recites, "a look-up table (LUT) connected to convert digital video output words of the ADC, wherein each sequentially presented digital word represents corresponding pixels in an image frame, and each is converted according to a dynamically selectable one of a plurality of digital transfer functions." Such crucially allows dynamic

selection of the transfer characteristic. The analog circuits described by Tran are fixed and not selectable. It is the nature of analog circuits. Saying such could be done digitally only extends to having an inflexible, non-selectable digital transfer function. Nothing is mentioned by the Reference about selection or using tables. Certainly nothing about applying these selections to only portions of frames.

The Office Action reads far too much into the A,B,C regions of Fig. 6 in Tran. All three regions represent one, non-linear curve. Tran refers to this one curve as transfer function 46, and liner portion 50 is described as a part of transfer function 46. Column 6, lines 7-29.

Tran does not describe three distinct curves that replace one another. The present invention can select different transfer curves dynamically in EACH of the A,B,C regions, for example.

The electronic image processing subsystem 14 in Tran Fig. 1 is given some detail with Fig. 2. Such is described as analog circuitry 30 with a multi-order, non-linear transfer function. Column 5, lines 30-54. It's very obvious that such an analog computer circuit is not able to choose different transfer functions dynamically, and artisans know that such cannot generate completely arbitrary

transfer functions, e.g., discontinuous or asymptotic functions.

The rejections of 13 and 15 were based on 35 USC §103(a), e.g., obviousness. The missing parts not supplied by Tran were supposed to be filled by Official Notice of some engineering fact. Such reference has been used more as anticipating prior art. Tran fails to teach the critical aspects of the claimed present invention, and discloses only analog circuits which cannot do the job. Saying digital circuits could be used is not enough to support a rejection.

The Office Action also fails to provide a solid motivation to make the combination of the prior art that amounts to the claimed present invention. In fact, there is no combination of art, only Tran.

Claim 15 was rejected along the same lines as was Claim 13, except it is admitted Tran fails to teach making gamma corrections before sending the image signal to the ADC. Remember than Tran has no ADC, so it is further missing that important part as well as the digital lookup table. Such table enables the selectability claimed.

The other rejected claims, e.g., Claims 2, 3, 5, 14, and 16, were rejected under 35 USC 103(a) on the foundation of Tran. Claims 13 and 15 are the two independent claims, these others depend from them. It has been explained here how Tran fails to teach the elements and combination of

these base, independent claims. So it follows that such a defective reference cannot be used to strike down their dependent claims.

Murata was cited as supplying the missing teaching in Tran related to supplying different linear gains to various parts of a single transfer function. Such is allegedly taught in Murata by its Figs. 18 and 19, e.g., knee correction. Claims 2 and 3 relate to "the LUT", a digital device not found in Tran or Murata at all. The knee correction in Murata requires a both a reverse knee 26 and a knee correction 42. Fig. 17. The Claimed present invention can include both in the LUT.

None of the cited prior art processes different parts of the same frame in different ways. For example, the third element of Claim 13 recites, "a program controller connected to the LUT and providing for the dynamic selection of particular ones of said plurality of digital transfer functions in the LUT according to respective portions of said image frame that include a subject-of-interest being imaged." There is no mention in the cited prior art about a subject of interest being in a portion of a frame, and that portion is subject to dynamic selection of particular ones of said plurality of digital transfer functions in the LUT.

Chaplin was cited in relation to Claim 16 for describing a CPU which "may download different transfer

functions to the PROM/RAM". Column 3, lines 40-42. Chaplin describes a "self keyer that uses background video to fill gaps in a composite video." As such, it has nothing at all to do with the technology recited in the claimed present invention.

Nothing in the References has suggested the combinations assembled by the Office Action. The Motivation stated to make such combination is superficial and non-specific to the issues addressed by the claimed present invention. As such, the rejection does not pass the muster required by 35 USC 103(a).

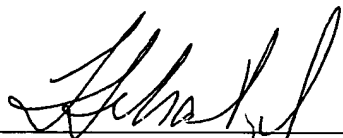
The cited prior art has therefore not made the claimed present invention obvious.

Accordingly, in view of the preceding amendments and remarks, it is respectfully submitted that the pending application, with pending Claims 2, 3, 5, and 12-16, is in condition for allowance and such action is respectfully requested.

Should the Examiner be of the opinion that a telephone conference with Applicant's attorney would expedite matters, the Examiner is invited to contact the undersigned at the telephone number listed below.

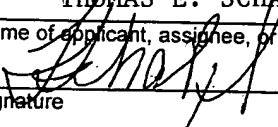
Respectfully submitted,

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